Patent Claims

- A method for assisting the driver of a vehicle 5 1. during a parking maneuver, wherein a parking gap is sensed and measured from the vehicle and a setpoint trajectory (5) along which the vehicle is to be moved during the parking maneuver is determined in accordance with a predefined parking strategy, characterized in 10 that a parking situation image on which the parking gap (7), an optimum setpoint position (4) as well as a first vehicle (1) and a second vehicle (2) represented in a plan view is displayed to the driver 15 on image display device, wherein the optimum setpoint position (4) corresponds to a position which the vehicle is intended to adopt within the parking gap (7), the first vehicle (1) corresponds to the vehicle in its instantaneous position and the second vehicle (2) corresponds to the vehicle in a target position (2) 20 which the vehicle is expected to adopt when it is moved along the setpoint trajectory (5).
- The method as claimed in claim 1, characterized in
 that the setpoint trajectory (5) is determined as a function of the initial steering angle.
- 3. claimed in claim 1 2, The method as orcharacterized in that the setpoint trajectory (5) determined in such a way that it has a first section 30 which starts at a starting point (5a) and can traveled through with a constant steering angle and whose profile is predefined by the steering angle which is set at the starting point (5a).

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4. The method as claimed in claim 3, characterized in that the setpoint trajectory (5) is determined in such a way that a second section which can be traveled

through with a constant steering angle adjoins the first section.

- 5. The method as claimed in one of the preceding claims, characterized in that the setpoint trajectory (5) is represented on the parking situation image.
- 6. The method as claimed in one of the preceding claims, characterized in that the parking gap (7) is determined and measured while the vehicles traveling past it, and in that the driver is requested to move back if he has traveled past the starting point of the setpoint trajectory.
- 15 7. The method as claimed in claim 6, characterized in that the vehicle is automatically stopped if it has reached the starting position (5a).
- 8. The method as claimed in one of the preceding claims, characterized in that when the vehicle is stationary the driver is requested to turn the steering wheel.
- 9. The method as claimed in claim 8, characterized in that the driver is requested to move the second vehicle (2) shown in the parking situation image into the optimum setpoint position (4) by turning the steering wheel.
- 30 10. The method as claimed in claim 8 or 9, characterized in that the direction of rotation of the steering wheel is indicated to the driver in a visual and/or acoustic and/or haptic fashion.
- 11. The method as claimed in one of the preceding claims, characterized in that feedback is output to the driver if the second vehicle (2) has reached the optimum setpoint position (4).

12. The method as claimed in claim 11, characterized in that the feedback is given by changing the color of an image element which represents the second vehicle (2).

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- 13. The method as claimed in one of the preceding claims, characterized in that the driver is requested to drive off with the steering wheel held in position if the second vehicle (2) is in the optimum setpoint position (4).
- 14. The method as claimed in one of the preceding claims, characterized in that the parking situation image is removed from the display when the vehicle is driven off.
- 15. The method as claimed in claim 7, characterized in that the parking situation image is displayed when the vehicle is stopped or braked.
 - 16. The method as claimed in one of the preceding claims, characterized in that the vehicle is automatically stopped if the end (5b, 5c) of a section of the setpoint trajectory (5) which can be traveled through with a constant steering angle is reached during the execution of the parking maneuver.
- 17. The method as claimed in one of the preceding 30 claims, characterized in that the position of the vehicle during the execution of the parking maneuver is determined and in that the vehicle is automatically stopped if it leaves a tolerance range defined around the setpoint trajectory (5).
 - 18. The method as claimed in claim 17, characterized in that a departure from the tolerance range (8) is

indicated to the driver in a visual and/or acoustic and/or haptic fashion.

- 19. The method as claimed in one of the preceding claims, characterized in that the setpoint trajectory (5) is newly calculated if the vehicle is stopped during the execution of the parking maneuver.
- 20. The method as claimed in one of the preceding 10 claims, characterized in that the driver is informed whether it is necessary to maneuver the vehicle in order to reach the final parking position.
- 21. The method as claimed in one of the preceding claims, characterized in that the speed of the vehicle during the execution of the parking maneuver is limited to a value range lying below a predefined maximum value.
- A device for assisting the driver of a vehicle 20 22. during a parking maneuver, having surroundings-sensing means for sensing and measuring a parking gap in the surroundings of the vehicle, having evaluation means for determining a setpoint trajectory (5) along which 25 the vehicle is to be moved during the parking maneuver, having information means for informing the driver about the driver actions necessary to execute the parking maneuver, position and having sensing means determining the position of the vehicle, characterized in that the information means comprise an image display 30 device for displaying a parking situation image on which the parking gap (7), an optimum setpoint position (4) which can be reached by the vehicle within the parking gap (7), the setpoint trajectory (5) as well as 35 a first vehicle (1) corresponding to the vehicle in its instantaneous position second vehicle and a (2) corresponding to the vehicle in a target position which

it is expected to reach can be represented in a plan view.